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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/083,127

02/27/2002

Pascal Chevalier

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22850

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12/16/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

TRAN, TUAN A

ART UNIT

PAPER NUMBER

2682

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,127

Applicant(s)

CHEVALIER ET AL.

Examiner

Tuan A Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 4-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 10 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 11-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 4-9 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 3. See MPEP § 608.01(n). Accordingly, the claims 4-9 not been further treated on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitations "the impulse response", "the statistic", "the additive noise", "the interference", "the thermal noise" and "the received signal" in claim. There is insufficient antecedent basis for these limitations in the claim.

Claim 2 recites the limitations "the covariance matrix", "the noise", "the empirical covariance matrix", "the observations", "the number of pilot chips" and "the form" in claim. There is insufficient antecedent basis for these limitations in the claim.

Claim 3 recites the limitations "the covariance matrix of the channel " and "the form" in claim. There is insufficient antecedent basis for these limitations in the claim.

Claim 10 recites the limitations "the impulse response", "the noise" and "the statistic of the channel" in claim. There is insufficient antecedent basis for these limitations in the claim.

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Claim 11 recites the limitations "the empirical covariance matrix of the observations", "the number of pilot chips" and "the form" in claim. There is insufficient antecedent basis for these limitations in the claim.

Claim 12 recites the limitation "the form" in claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the field of UMTS" in claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rached et al. (6,671,313) in view of Cochran (6,363,124).

Regarding claim 1, Rached discloses a method to estimate the impulse response of a propagation channel in a system comprising at least one sensor (See fig. 1), comprising at least one step for estimating the statistic of additive noise on the basis of the statistic of the received signal (See fig. 1 and col. 6 line 56 to col. 7 line 34). However, Rached does not mention that the additive noise resulting from the interference and from the thermal noise. The additive noise resulting from the

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interference and from the thermal noise is known in the art, as cited by Cochran (See col. 3 line 67 to col. 4 line 3); therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to consider the additive noise as a result due to interference and thermal noise for the advantage of enhancing the accuracy of the noise analysis.

Claim 10 is rejected for the same reasons as set forth in claim 1, as apparatus.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Harrison et al. (6,434,366) ; Haardt et al. (6,311,043) ; Chen et al. (6,144,710) ; Kumar et al. (5,918,161) ; Wales (5,640,432).

Allowable Subject Matter

Claims 2-3 and 12-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Regarding claims 2-3, Rached & Cochran disclose as cited in claim 1. However, they do not disclose the noise matrix being expressed in the form as specified in claims.

Regarding claims 11 and 13, Rached & Cochran disclose as cited in claim 10. However, they do not disclose the noise matrix being expressed in the form as specified in claims.

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Regarding claims 12-13, Rached & Cochran disclose as cited in claim 10.

However, they do not disclose the impulse response of the channel being expressed in the form as specified in claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan Tran** whose telephone number is **(703) 605-4255**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Vivian Chin**, can be reached at **(703) 308-6739**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

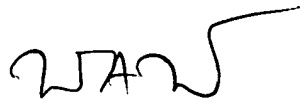
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

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A handwritten signature in black ink, appearing to read 'Tuan Tran'.

Tuan Tran

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A handwritten signature in black ink, appearing to read 'Lee Nguyen'.

LEE NGUYEN
PRIMARY EXAMINER